

BASF Aktiengesellschaft

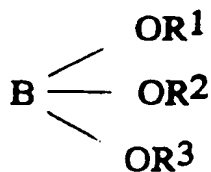
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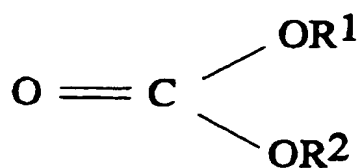
We claim:

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1. The use of at least one ester of the formula (I) to (V)

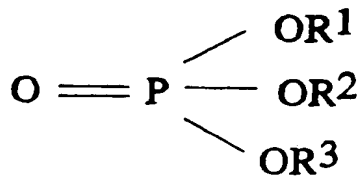


(I)

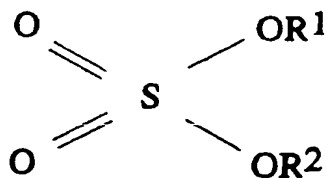


(II)

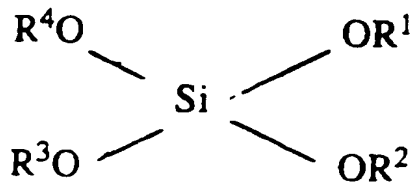
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(III)



(IV)



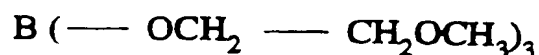
(V)

where R^1 , R^2 , R^3 , R^4 are identical or different and each, independently of one another, are a linear or branched-chain C_1 - to C_4 -alkyl, $(-CH_2-CH_2-O)_n-CH_3$ with $n = 1$ to 3, a C_3 - to C_6 -cycloalkyl, an aromatic hydrocarbon group which in turn can be substituted, with the proviso that at least one of the groups R^1 , R^2 , R^3 or R^4 is $(-CH_2-CH_2-O)_n-CH_3$ with $n = 1$ to 3,

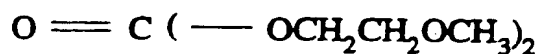
as a solvent in electrolyte systems for Li-ion storage cells.

2. The use as claimed in claim 1, wherein R^1 , R^2 and, where present, R^3 are identical and are $-CH_2-CH_2-O-CH_3$ or $(-CH_2-CH_2-O)_2-CH_3$.

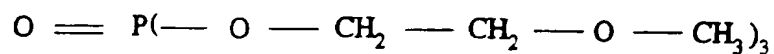
3. The use of at least one of the compounds of formulae (Ia) to (Va)



(Ia)

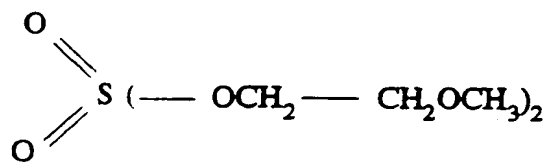


(IIa)

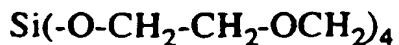


(IIIa)

and



(IVa)



(Va)

as a solvent in electrolyte systems for Li-ion storage cells.

- 5
4. The use as claimed in any one of the preceding claims, wherein LiPF_6 , LiBF_4 , LiClO_4 , LiAsF_6 , LiCF_3SO_3 , $\text{LiC}(\text{CF}_3\text{SO}_2)_3$, $\text{LiN}(\text{CF}_3\text{SO}_2)_2$, $\text{LiN}(\text{SO}_2\text{F})_2$, $\text{LiN}(\text{CF}_3\text{CF}_2\text{SO}_2)_2$, LiAlCl_4 , LiSiF_6 , LiSbF_6 or mixtures of two or more thereof are employed as a conducting salt.
- 10
5. A composition comprising:
- 15 (A) at least one compound of formula (I) to (V) as defined in claim 1, and
- (B) a conducting salt selected among:
- 20 LiPF_6 , LiBF_4 , LiClO_4 , LiAsF_6 , LiCF_3SO_3 , $\text{LiC}(\text{CF}_3\text{SO}_2)_3$, $\text{LiN}(\text{SO}_2\text{F})_2$, $\text{LiN}(\text{CF}_3\text{SO}_2)_2$, $\text{LiN}(\text{CF}_3\text{CF}_2\text{SO}_2)_2$, LiAlCl_4 , LiSiF_6 , LiSbF [sic] and a mixture of two or more thereof.
- 25 6. A composition as claimed in claim 5, wherein the compound (A) is selected among the compounds of formulae (Ia) to (Va), as defined in claim 3, and a mixture of two or more thereof, and the conducting salt (B) is LiBF_4 .
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7. An Li-ion storage cell comprising at least one ester as defined in any one of claims 1 to 3.

8. An Li-ion storage cell comprising a composition as claimed in claim 5 or 6.
9. The use of a composition as claimed in claim 5 or 6
5 as an electrolyte system in Li-ion storage cells.